APPENDIX C

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

May 24, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2752 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042752
Collected by: TM/JJ
Collected on: 04/29/04

Received: 04/29/04
Extracted: N/A
Tested: 04/29-05/05/04
Reported: 05/12/04

Sample Description: Water from MW-19
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-1-4/29/04 04-02752-1	MW-19-1 04-02752-2	MW-19-2 04-02752-3
BICARBONATE	SM2320B	mg/L	2	<2	125	175
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
PH	9040B	pH unit	0.01	6.20	7.19	6.71
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	<10	258	604
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
PERCHLORATE	314.0	mg/L	0.004	<0.004	<0.004	0.0045
Dilution Factor				1.25	4	20
CHLORIDE CL^-	300.0	mg/L	0.2	0.18J	20.8	100
NITRATE AS N	300.0	mg/L	0.04	0.074	3.2	13.7
SULFATE SO_4^{--}	300.0	mg/L	0.5	<0.63	27.9	139
Dilution Factor				1	1	1
CHROMIUM	200.8	µg/L	0.1	0.57	0.58	10.0
LEAD	200.8	µg/L	0.12	<0.12	0.23	<0.12
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5
Dilution Factor				1	1	1
CALCIUM	200.7	µg/L	200	197J	42,200	118,000
IRON	200.7	µg/L	50	136	3,500	973
MAGNESIUM	200.7	µg/L	100	<100	16,300	43,300
POTASSIUM	200.7	µg/L	400	104J	2,420	2,860
SODIUM	200.7	µg/L	2000	383J	15,300	33,000
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	0.4J
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	0.6

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result EB-1-4/29/04 04-02752-1	MW-19-1 04-02752-2	MW-19-2 04-02752-3
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	0.8
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	0.3J
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-19-3 04-02752-4	MW-19-4 04-02752-5	MW-19-5 04-02752-6	TB-1-4/29/04 04-02752-7
BICARBONATE	SM2320B	mg/L	2	228	168	154	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	9040B	pH unit	0.01	7.54	7.63	7.75	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	436	450	448	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				10	8	12.5	1
CHLORIDE CL^-	300.0	mg/L	0.2	59.2	47.4	70.5	-
NITRATE AS N	300.0	mg/L	0.04	9.9	5.5	0.98	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	65.6	49.5	<6.3	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	mg/L	0.004	0.0033J	<0.004	<0.004	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
Dilution Factor				1	1	1	1
CHROMIUM	200.8	µg/L	0.1	10.7	7.3	5.4	-
LEAD	200.8	µg/L	0.12	<0.12	<0.12	<0.12	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	82,400	54,500	44,600	-
IRON	200.7	µg/L	50	409	158	563	-
MAGNESIUM	200.7	µg/L	100	31,800	27,700	33,200	-
POTASSIUM	200.7	µg/L	400	2,580	2,230	2,710	-
SODIUM	200.7	µg/L	2000	29,700	26,200	31,800	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	0.7	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-19-3 04-02752-4	MW-19-4 04-02752-5	MW-19-5 04-02752-6	TB-1-4/29/04 04-02752-7
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHENE (TOTAL)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	0.8	1.0	2.9	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW-19/4-12812

For GEOFON, Inc.

APCL Service No: 04-2752

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-19-5	04-02752-6
MW-19-4	04-02752-5
MW-19-3	04-02752-4
MW-19-2	04-02752-3
MW-19-1	04-02752-2
EB-1-4/29/04	04-02752-1
TB-1-4/29/04	04-02752-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) 200.8:

Chromium in the amounts of 0.154 ug/L and 0.236 ug/L was detected in the CCBs analyzed at 15:32 and 16:12, respectively, higher than 0.1 ug/L reporting limit. Chromium was not detected in the associated Method Blank. Chromium was detected in the most of the field samples in the amounts significantly exceeding

the reporting limit. The concentrations in the samples EB-1-4/29/04 and MW-19-1 were 0.57 ug/L and 0.58 ug/L, respectively.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

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CHAIN-OF-CUSTODY RECORD

MW-19

LABORATORY COPY

0093

GEOFON's LAB COORDINATOR: Scott Buchmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL GW Mon 2004	PROJECT LOCATION: MW-18	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: Navy - SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: 5/12.2 (VOCs)	7196.0 (Cr(VI))	314.0 (ClO4)	200.8 (Cd)	PH, TSS, NO3, Cl	200.8 (Pb), 200.7 (Cu), 200.7 (Zn, Ni, Mn, Fe)	300.0 (NO3, SO4, Cl)			Comments
1	MW-19-5	W	4/29/04	0918	HCl #NO3 None	6	III	Normal	X	X	X	X	X	X				
2	MW-19-4	↓	↓	1021	↓	↓	↓	↓	X	X	X	X	X	X				
3	MW-19-3			1052		12			X	X	X	X	X	X				MS/MSD
4	MW-19-2			1140		6			X	X	X	X	X	X				
5	MW-19-1			1203		↓			X	X	X	X	X	X				
6	EB-1-4/28/04			1154	↓	↓			X	X	X	X	X	X				
7	TB-1-4/29/04	↓	↓	—	HCl	2	↓	↓	X									
8																		
9																		
10																		

A.D. Jones 4.29.04

2752

SAMPLES COLLECTED BY: TM & JJ

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J. D. Jones	[signature]	4/29/04	12:50PM	
[signature]	[signature]	4/29/04	1250	
[signature]	[signature]	4/29/04	1420	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2752 **Client Name/Project:** Geotor JPL

1. Sample Arrival

Date/Time Received 4/29/04 1420 Date/Time Opened 4/29/04 1420 By (name): Kenny Chan
Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold # Received 7
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ☑ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
Temp °C 40
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12
If Not, pH = Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number:
Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other:
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:)Date/Time:
Received/Checked by: Printed: 29 Apr 2004 7:31 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: |neal.texfiles|smprcl.tex.

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Sample Login: Check List

2nd.

04-02752 (0470_ 223) (2202777_ 223)

04/30/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			MW-19
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*04/29/04 1420*
		COC No.	*0093*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*4.0 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*TM/JJ*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-19-5	VOC	04-02752-6-α	W	V	C	40	3	G	042904	N	0	9	☐
	MW-19-5	CrVI/314	04-02752-6-β	W	P		500	1	G	042904	N	0	9	☐
	MW-19-5	300	04-02752-6-γ	W	P		500	1	G	042904	N	0	9	☐
	MW-19-5	Metal	04-02752-6-δ	W	P	N	500	1	G	042904	N	0	9	☐
2	MW-19-4	VOC	04-02752-5-α	W	V	C	40	3	G	042904	N	0	9	☐
	MW-19-4	CrVI/314	04-02752-5-β	W	P		500	1	G	042904	N	0	9	☐
	MW-19-4	300	04-02752-5-γ	W	P		500	1	G	042904	N	0	9	☐
	MW-19-4	Metal	04-02752-5-δ	W	P	N	500	1	G	042904	N	0	9	☐
3	MW-19-3	VOC	04-02752-4-α	W	V	C	40	6	G	042904	N	0	9	☐
	MW-19-3	CrVI/314	04-02752-4-β	W	P		500	2	G	042904	N	0	9	☐
	MW-19-3	300	04-02752-4-γ	W	P		500	2	G	042904	N	0	9	☐
	MW-19-3	Metal	04-02752-4-δ	W	P	N	500	2	G	042904	N	0	9	☐
4	MW-19-2	VOC	04-02752-3-α	W	V	C	40	3	G	042904	N	0	9	☐
	MW-19-2	CrVI/314	04-02752-3-β	W	P		500	1	G	042904	N	0	9	☐
	MW-19-2	300	04-02752-3-γ	W	P		500	1	G	042904	N	0	9	☐
	MW-19-2	Metal	04-02752-3-δ	W	P	N	500	1	G	042904	N	0	9	☐
5	MW-19-1	VOC	04-02752-2-α	W	V	C	40	3	G	042904	N	0	9	☐
	MW-19-1	CrVI/314	04-02752-2-β	W	P		500	1	G	042904	N	0	9	☐
	MW-19-1	300	04-02752-2-γ	W	P		500	1	G	042904	N	0	9	☐
	MW-19-1	Metal	04-02752-2-δ	W	P	N	500	1	G	042904	N	0	9	☐
6	EB-1-4/29/04	VOC	04-02752-1-α	W	V	C	40	3	G	042904	N	0	9	☐
	EB-1-4/29/04	CrVI/314	04-02752-1-β	W	P		500	1	G	042904	N	0	9	☐
	EB-1-4/29/04	300	04-02752-1-γ	W	P		500	1	G	042904	N	0	9	☐
	EB-1-4/29/04	Metal	04-02752-1-δ	W	P	N	500	1	G	042904	N	0	9	☐
7	TB-1-4/29/04	TRIP	04-02752-7	W	V	C	40	2	G	042904	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

May 24, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2758 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042758
Collected by: TM/JJ/MM
Collected on: 04/30/04

Received: 04/30/04
Extracted: N/A
Tested: 04/30-05/10/04
Reported: 05/12/04

Sample Description: Water from MW-21
Project Description: 4-12812 JPL GW Mon.2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-2-4/30/04 04-02758-1	MW-21-1 04-02758-2	MW-21-2 04-02758-3
BICARBONATE	SM2320B	mg/L	2	<2	178	277
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
PH	9040B	pH unit	0.01	6.89	6.67	6.70
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	<10	771	851
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
PERCHLORATE	314.0	mg/L	0.004	<0.004	0.0056	0.0038J
Dilution Factor				1.25	20	20
CHLORIDE CL^-	300.0	mg/L	0.2	0.15J	119	146
NITRATE AS N	300.0	mg/L	0.04	0.13	13.1	9.8
SULFATE SO_4^{--}	300.0	mg/L	0.5	<0.63	181	168
Dilution Factor				1	1	1
CHROMIUM	200.8	µg/L	0.1	2.1	10.9	11.7
LEAD	200.8	µg/L	0.12	0.25	<0.12	0.013J
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5
Dilution Factor				1	1	1
CALCIUM	200.7	µg/L	200	<200	131,000	138,000
IRON	200.7	µg/L	50	148	295	601
MAGNESIUM	200.7	µg/L	100	<100	44,500	46,400
POTASSIUM	200.7	µg/L	400	121J	2,510	3,710
SODIUM	200.7	µg/L	2000	411J	34,000	71,100
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	0.7	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result EB-2-4/30/04 04-02758-1	MW-21-1 04-02758-2	MW-21-2 04-02758-3
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	0.6	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	0.3J
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	0.4J	1.3
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	0.9	0.6
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-21-3 04-02758-4	MW-21-4 04-02758-5	MW-21-5 04-02758-6	TB-2-4/30/04 04-02758-7
BICARBONATE	SM2320B	mg/L	2	243	173	188	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	9040B	pH unit	0.01	7.05	7.10	7.42	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	664	447	543	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	mg/L	0.004	0.0043	0.0042	0.0036J	-
Dilution Factor				20	10	12.5	1
CHLORIDE CL^-	300.0	mg/L	0.2	114	59.3	71.4	-
NITRATE N-NO_3^- AS N	300.0	mg/L	0.04	9.9	6.9	7.0	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	130	75.8	139	-
Dilution Factor				1	1	1	1
CHROMIUM	200.8	µg/L	0.1	12.2	8.3	8.3	-
LEAD	200.8	µg/L	0.12	<0.12	<0.12	0.026J	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	131,000	79,400	90,600	-
IRON	200.7	µg/L	50	318	274	227	-
MAGNESIUM	200.7	µg/L	100	43,000	26,000	31,300	-
POTASSIUM	200.7	µg/L	400	3,220	2,210	2,590	-
SODIUM	200.7	µg/L	2000	40,700	27,100	33,300	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	0.6	2.2	2.6	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-21-3 04-02758-4	MW-21-4 04-02758-5	MW-21-5 04-02758-6	TB-2-4/30/04 04-02758-7
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	0.3J	0.7	1.4	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	1.6	2.8	6.4	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	1	<0.5	0.5J	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon.2Q04/MW-21/4-12812

For GEOFON, Inc.

APCL Service No: 04-2758

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-21-5	04-02758-6
MW-21-4	04-02758-5
MW-21-3	04-02758-4
MW-21-2	04-02758-3
MW-21-1	04-02758-2
EB-2-4/30/04	04-02758-1
TB-2-4/30/04	04-02758-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Target Analyte by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

MW-21

LABORATORY COPY

0094

GEOFON'S LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL GW Mon. 2004	PROJECT LOCATION: MW-21	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: ~~JPL~~ J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: Navy - SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91910		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 542.2 (VOCs)	714.0 (Cu (VI)), 314.0 (ClO4), 300.0 (NO3, SO4)	200.8 (Cu)	pH, CO3, HCO3, TDS	200.7 (Na, K, Ca, Mg, Fe), 200.8 (Pb), 200.9 (As)				Comments
1	MW-21-5	W	4/30/04	0702	HCl HNO3 None	6	III	Normal	X	X	X	X	X				
2	MW-21-4			0730					X	X	X	X	X				
3	MW-21-3			0752					X	X	X	X	X				2758
4	MW-21-2			0817					X	X	X	X	X				
5	MW-21-1			0847		12			X	X	X	X	X				MS/MSD
6	EB-2-4/30/04			0746		6			X	X	X	X	X				
7	TB-2-4/30/04			—	HCl	2			X								
8																	
9																	
10																	

J. D. Jones
4.30.04

SAMPLES COLLECTED BY: TM + JJ + MM

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J. D. Jones	Richard [illegible]	4-30-04	10:45	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2758 **Client Name/Project:** Geofon JPL

1. Sample Arrival

Date/Time Received 4/30/04 1045 Date/Time Opened 4/30/04 1045 By (name): Richard Stinson

Custody Transfer: ☑ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☐ APCL Empl: _____

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 7
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.4 _____ _____ _____ _____ _____

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: Kenny Chan Printed: 30 Apr 2004 7:22 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]amprcl.tex.

Applied P & Ch Laboratory
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Sample Login: Check List

04-02758 (0470_ 224) (2202777_ 224)

04/30/04

Part 1: General Information

Company Information	Name:	*GEOFON, Inc.*
	Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
Project Information	Project Description:	*JPL GW Mon.2Q04*
		MW-21
	Project #:	*4-12812*
Billing Information	P.O. #:	
	Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
	Lab Project ID:	
	Client Database #:	*3*
Receiving Information	Who Received Sample?	*Richard Stinson*
	Receiving Date/Time:	*04/30/04 1045*
	COC No.	*0094*
Shipping Information	Shipping Company	*by Client*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*3.4 °C*
Container Information	Container Provider:	*Client*
Sampling Information	Sampling Person:	*TM/JJ/MM*
	Sampling Company:	*Client*
Turn-Around-Time Option:		*Normal*
QC Option:		*NEESA C*
Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-21-5	VOC	04-02758-6-α	W	V	C	40	3	G	043004	N	0	9	☐
	MW-21-5	CrVI/314	04-02758-6-β	W	P		500	1	G	043004	N	0	9	☐
	MW-21-5	300	04-02758-6-γ	W	P		500	1	G	043004	N	0	9	☐
	MW-21-5	Metal	04-02758-6-δ	W	P	N	500	1	G	043004	N	0	9	☐
2	MW-21-4	VOC	04-02758-5-α	W	V	C	40	3	G	043004	N	0	9	☐
	MW-21-4	CrVI/314	04-02758-5-β	W	P		500	1	G	043004	N	0	9	☐
	MW-21-4	300	04-02758-5-γ	W	P		500	1	G	043004	N	0	9	☐
	MW-21-4	Metal	04-02758-5-δ	W	P	N	500	1	G	043004	N	0	9	☐
3	MW-21-3	VOC	04-02758-4-α	W	V	C	40	3	G	043004	N	0	9	☐
	MW-21-3	CrVI/314	04-02758-4-β	W	P		500	1	G	043004	N	0	9	☐
	MW-21-3	300	04-02758-4-γ	W	P		500	1	G	043004	N	0	9	☐
	MW-21-3	Metal	04-02758-4-δ	W	P	N	500	1	G	043004	N	0	9	☐
4	MW-21-2	VOC	04-02758-3-α	W	V	C	40	3	G	043004	N	0	9	☐
	MW-21-2	CrVI/314	04-02758-3-β	W	P		500	1	G	043004	N	0	9	☐
	MW-21-2	300	04-02758-3-γ	W	P		500	1	G	043004	N	0	9	☐
	MW-21-2	Metal	04-02758-3-δ	W	P	N	500	1	G	043004	N	0	9	☐
5	MW-21-1	VOC	04-02758-2-α	W	V	C	40	6	G	043004	N	0	9	☐
	MW-21-1	CrVI/314	04-02758-2-β	W	P		500	2	G	043004	N	0	9	☐
	MW-21-1	300	04-02758-2-γ	W	P		500	2	G	043004	N	0	9	☐
	MW-21-1	Metal	04-02758-2-δ	W	P	N	500	2	G	043004	N	0	9	☐
6	EB-2-4/30/04	VOC	04-02758-1-α	W	V	C	40	3	G	043004	N	0	9	☐
	EB-2-4/30/04	CrVI/314	04-02758-1-β	W	P		500	1	G	043004	N	0	9	☐
	EB-2-4/30/04	300	04-02758-1-γ	W	P		500	1	G	043004	N	0	9	☐
	EB-2-4/30/04	Metal	04-02758-1-δ	W	P	N	500	1	G	043004	N	0	9	☐
7	TB-2-4/30/04	TRIP	04-02758-7	W	V	C	40	2	G	043004	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

May 26, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2778 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042778
Collected by: TM/JJ/MM
Collected on: 05/03/04

Received: 05/03/04
Extracted: N/A
Tested: 05/03-06/04
Reported: 05/12/04

Sample Description: Water from MW-20
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-3-5/3/04 04-02778-1	MW-20-1 04-02778-2	MW-20-2 04-02778-3
BICARBONATE	SM2320B	mg/L	2	<2	163	134
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
PH	9040B	pH unit	0.01	6.85	7.28	7.91
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	<10	299	196
Dilution Factor				1	1	1
PERCHLORATE	314.0	mg/L	0.004	<0.004	<0.004	<0.004
Dilution Factor				1.25	4	2
CHLORIDE CL^-	300.0	mg/L	0.2	0.15J	15.4	8.2
NITRATE AS N	300.0	mg/L	0.04	0.13	2.3	0.84
SULFATE SO_4^{--}	300.0	mg/L	0.5	<0.63	44.8	26.1
Dilution Factor				1	1	1
CHROMIUM	200.8	µg/L	0.1	2.1	6.6	5.1
LEAD	200.8	µg/L	0.12	0.19	<0.12	<0.12
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5
Dilution Factor				1	1	1
CALCIUM	200.7	µg/L	200	<200	54,200	35,800
IRON	200.7	µg/L	50	39.0J	112	47.2J
MAGNESIUM	200.7	µg/L	100	<100	18,000	15,500
POTASSIUM	200.7	µg/L	400	112J	2,400	1,780
SODIUM	200.7	µg/L	2000	560J	16,800	13,100
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	1

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result EB-3-5/3/04 04-02778-1	MW-20-1 04-02778-2	MW-20-2 04-02778-3
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	0.5J	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-3 04-02778-4	MW-20-4 04-02778-5	MW-20-5 04-02778-6	TB-3-5/3/04 04-02778-7
BICARBONATE	SM2320B	mg/L	2	188	183	141	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	335	193	179	-
PH	9040	pH unit	0.01	7.59	8.68	8.94	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	mg/L	0.004	<0.004	<0.004	<0.004	-
Dilution Factor				5	2	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	36.1	10.4	9.6	-
NITRATE AS N	300.0	mg/L	0.04	2.9	0.079J	0.087	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	27.5	9.2	3.7	-
Dilution Factor				1	1	1	1
CHROMIUM	200.8	µg/L	0.1	10.5	6.5	4.5	-
LEAD	200.8	µg/L	0.12	<0.12	<0.12	<0.12	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	2.5J	<5	<5	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	40,100	11,300	5,010	-
IRON	200.7	µg/L	50	49.8J	905	56.6	-
MAGNESIUM	200.7	µg/L	100	14,600	3,060	1,200	-
POTASSIUM	200.7	µg/L	400	2,330	1,030	1,500	-
SODIUM	200.7	µg/L	2000	60,200	58,600	70,700	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-3 04-02778-4	MW-20-4 04-02778-5	MW-20-5 04-02778-6	TB-3-5/3/04 04-02778-7
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	0.4J	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW-20/4-12812

For GEOFON, Inc.

APCL Service No: 04-2778

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-20-5	04-02778-6
MW-20-4	04-02778-5
MW-20-3	04-02778-4
MW-20-2	04-02778-3
MW-20-1	04-02778-2
EB-3-5/3/04	04-02778-1
TB-3-5/3/04	04-02778-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead, by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) SW6020:

Chromium in the amounts of 0.204 ug/L and 0.271 ug/L were detected in the two CCBs, exceeding the 0.1 ug/L reporting limit. However, Chromium was not detected in the associated Method Blank. The Chromium results in the field samples significantly exceeded the reporting limit.

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
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CHAIN-OF-CUSTODY RECORD

MW-20

LABORATORY COPY

0095

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Scott Buhmer	909 396 7662	909 396 1455		Kenny Chan	GEOFON
PROJECT NAME:	**PROJECT LOCATION**	**PROJECT NUMBER**	**LABORATORY PHONE**	**LABORATORY FAX**	**RECIPIENT NAME**
JPL GW Mon 2004	MW-20	4-12812	909 590 1828	909 590 1498	Tony Ford
PROJECT CONTACT	**PROJECT PHONE NUMBER**	**PROJECT FAX**	**LABORATORY ADDRESS**		**ADDRESS**
J. D. Jones	714 920 8729	909 396 1455	~~22632~~ 13760 Magnolia Ave.		22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS	**CITY, STATE AND ZIPCODE**	**CLIENT**	**CITY, STATE AND ZIPCODE**		**CITY, STATE AND ZIPCODE**
4800 Oak Grove	Pasadena, CA	Navy - SWDIV	Chino, CA		Diamond Bar, CA 91765
PROJECT MANAGER	**PROJECT MANAGER'S PHONE**	**PROJECT MANAGER'S FAX**			
Tony Ford	909 396 7662	909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 5/2.2 (VOCs)	TPH G & (G (V))	3W.0 (Oil)	200.8 (CL)	pH, HCO3, CO3, TDS	200.7 (Na, K, Ca, Fe, Mg)	200.8 (Pb)	300.0 (NO3, SO4, Cl)			Comments
1	MW-20-5	W	5/3/04	0736	HCl HNO3 None	6	III	Normal	X	X	X	X	X	X					
2	MW-20-4			0840					X	X	X	X	X	X					
3	MW-20-3			0920					X	X	X	X	X	X					
4	MW-20-2			1003		12			X	X	X	X	X	X					MS/MSD
5	MW-20-1			1105		6			X	X	X	X	X	X					
6	EB-3 -5/3/04			1023		6			X	X	X	X	X	X					
7	TB-3 -5/3/04			—	HCl	2			X										
8																			
9																			
10																			

2778

SAMPLES COLLECTED BY: TM + JJ + MM

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J. D. Jones	[signature]	5/3/04	1220	APCL
[signature]	[signature]	5/3/04	1305	APC

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2778 **Client Name/Project:** Geofon/JPL

1. Sample Arrival

Date/Time Received 5/3/04 1305 Date/Time Opened 5/3/04 1305 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Richard Stinson

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 7
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.6 _____ _____ _____ _____ _____

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: Kenny Chan Printed: 3 May 2004 7:24 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [ncal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

04-02778 (0470_ 225) (2202777_ 225)

05/03/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			MW-20
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/03/04 1305*
		COC No.	*0095*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.6 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*TM/JJ/MM*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-20-5	VOC	04-02778-6-α	W	V	C	40	3	G	050304	N	0	9	☐
	MW-20-5	PH/TDS	04-02778-6-β	W	P		500	1	G	050304	N	0	9	☐
	MW-20-5	300	04-02778-6-γ	W	P		500	1	G	050304	N	0	9	☐
	MW-20-5	Metal	04-02778-6-δ	W	P	N	500	1	G	050304	N	0	9	☐
2	MW-20-4	VOC	04-02778-5-α	W	V	C	40	3	G	050304	N	0	9	☐
	MW-20-4	PH/TDS	04-02778-5-β	W	P		500	1	G	050304	N	0	9	☐
	MW-20-4	300	04-02778-5-γ	W	P		500	1	G	050304	N	0	9	☐
	MW-20-4	Metal	04-02778-5-δ	W	P	N	500	1	G	050304	N	0	9	☐
3	MW-20-3	VOC	04-02778-4-α	W	V	C	40	3	G	050304	N	0	9	☐
	MW-20-3	PH/TDS	04-02778-4-β	W	P		500	1	G	050304	N	0	9	☐
	MW-20-3	300	04-02778-4-γ	W	P		500	1	G	050304	N	0	9	☐
	MW-20-3	Metal	04-02778-4-δ	W	P	N	500	1	G	050304	N	0	9	☐
4	MW-20-2	VOC	04-02778-3-α	W	V	C	40	6	G	050304	N	0	9	☐
	MW-20-2	PH/TDS	04-02778-3-β	W	P		500	2	G	050304	N	0	9	☐
	MW-20-2	300	04-02778-3-γ	W	P		500	2	G	050304	N	0	9	☐
	MW-20-2	Metal	04-02778-3-δ	W	P	N	500	2	G	050304	N	0	9	☐
5	MW-20-1	VOC	04-02778-2-α	W	V	C	40	3	G	050304	N	0	9	☐
	MW-20-1	PH/TDS	04-02778-2-β	W	P		500	1	G	050304	N	0	9	☐
	MW-20-1	300	04-02778-2-γ	W	P		500	1	G	050304	N	0	9	☐
	MW-20-1	Metal	04-02778-2-δ	W	P	N	500	1	G	050304	N	0	9	☐
6	EB-3-5/3/04	VOC	04-02778-1-α	W	V	C	40	3	G	050304	N	0	9	☐
	EB-3-5/3/04	PH/TDS	04-02778-1-β	W	P		500	1	G	050304	N	0	9	☐
	EB-3-5/3/04	300	04-02778-1-γ	W	P		500	1	G	050304	N	0	9	☐
	EB-3-5/3/04	Metal	04-02778-1-δ	W	P	N	500	1	G	050304	N	0	9	☐
7	TB-3-5/3/04	VOC	04-02778-7	W	V	C	40	2	G	050304	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3C* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

May 28, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2793 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042793
Collected by: TM/JJ/MM
Collected on: 05/04/04

Received: 05/04/04
Extracted: N/A
Tested: 05/04-10/04
Reported: 05/12/04

Sample Description: Water from MW-18
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-4-5/4/04 04-02793-1	MW-18-1 04-02793-2	MW-18-2 04-02793-3
BICARBONATE	SM2320B	mg/L	2	<2	140	164
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
PH	9040B	pH unit	0.01	6.25	7.10	7.50
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	<10	701	265
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1.25	2	2
CHLORIDE CL^-	300.0	mg/L	0.2	0.17J	14.4	13.9
NITRATE AS N	300.0	mg/L	0.04	0.12	1.4	0.89
SULFATE SO_4^{--}	300.0	mg/L	0.5	<0.63	41.0	35.8
Dilution Factor				1	1	1
PERCHLORATE	314.0	mg/L	0.004	<0.004	<0.004	<0.004
Dilution Factor				1	1	1
CHROMIUM	200.8	µg/L	0.1	1.7	8.4	9.3
LEAD	200.8	µg/L	0.12	0.081J	<0.12	<0.12
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5
Dilution Factor				1	1	1
CALCIUM	200.7	µg/L	200	<200	46,900	55,600
IRON	200.7	µg/L	50	<50	328	265
MAGNESIUM	200.7	µg/L	100	<100	15,800	18,600
POTASSIUM	200.7	µg/L	400	109J	2,280	2,470
SODIUM	200.7	µg/L	2000	415J	15,900	20,300
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result EB-4-5/4/04 04-02793-1	MW-18-1 04-02793-2	MW-18-2 04-02793-3
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	0.4J	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-3 04-02793-4	MW-18-4 04-02793-5	MW-18-5 04-02793-6	TB-4-5/4/04 04-02793-7
BICARBONATE	SM2320B	mg/L	2	219	157	123	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	9040B	pH unit	0.01	7.66	7.82	8.70	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	328	245	179	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	mg/L	0.004	0.0027J	0.0081	<0.004	-
Dilution Factor				4	2	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	18.8	10.4	10.8	-
NITRATE AS N	300.0	mg/L	0.04	1.2	1.1	<0.08	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	40.1	22.7	4.8	-
Dilution Factor				1	1	1	1
CHROMIUM	200.8	µg/L	0.1	15.5	6.9	6.1	-
LEAD	200.8	µg/L	0.12	<0.12	<0.12	<0.12	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	66,700	38,200	8,550	-
IRON	200.7	µg/L	50	105	446	123	-
MAGNESIUM	200.7	µg/L	100	20,000	13,200	4,520	-
POTASSIUM	200.7	µg/L	400	2,840	1,800	1,640	-
SODIUM	200.7	µg/L	2000	23,500	27,900	55,100	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	2.1	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	0.9	0.6	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-3 04-02793-4	MW-18-4 04-02793-5	MW-18-5 04-02793-6	TB-4-5/4/04 04-02793-7
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	0.6	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	0.4J	0.8	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW-18/4-12812

For GEOFON, Inc.

APCL Service No: 04-2793

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-18-5	04-02793-6
MW-18-4	04-02793-5
MW-18-3	04-02793-4
MW-18-2	04-02793-3
MW-18-1	04-02793-2
EB-4-5/4/04	04-02793-1
TB-4-5/4/04	04-02793-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

MW-18

LABORATORY COPY

0096

GEOFON's LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: SPC GW Mon 2004	PROJECT LOCATION: MW-18	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: Navy - SWDIV	CITY, STATE AND ZIPCODE: Chino, CA		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 542.2 (VOCs)	TPH (G) (GC/MS)	524.0 (GC/MS)	200.8 (ICP)	pH, TDS, CO3, HCO3	200.7 (Na, K, Ca, Mg)	200.8 (Ba)	300.0 (NO3, SO4, Cl)			Comments
1	MW-18-5	W	5/4/04	0723	HCl HNO3 None	6	III	Normal	X	X	X	X	X	X					
2	MW-18-4	↓	↓	0817	↓	12	↓	↓	X	X	X	X	X	X					MS/MSD
3	MW-18-3			0910		6			X	X	X	X	X	X					
4	MW-18-2			0943		↓			X	X	X	X	X	X					
5	MW-18-1			1023					X	X	X	X	X	X					
6	EB-4 - 5/4/04			1007	↓	↓			X	X	X	X	X	X					2793
7	TB-4 - 5/4/04	↓	↓	—	HCl	2	↓	↓	X										
8																			
9							J. D. Jones 5.4.04												
10																			

SAMPLES COLLECTED BY: TM + JJ + MM

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J. D. Jones	Adam Wolf	5/4/04	1132	
Adam Wolf		5/4/04	1300	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2793 **Client Name/Project:** Geofan

1. Sample Arrival

Date/Time Received 5/4/04 1300 Date/Time Opened 5/4/04 1300 By (name): Jason N.

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☒ APCL Empl: A.W.

2. Chain-of-Custody (CoC)

☒ With Samples? ☐ Faxed? ☒ Client has Copy? ☒ Signed, dated? By: JD
☒ Project ID? ☒ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 7
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☒ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☒ Cooler Used? # of 1 Cooled by: ☒ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
Temp °C 3.5

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12
If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☒ pH 24hr ☐ BACT 6/24hr ☒ Cr^{VI} 24hr ☒ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☒ Intact? ☐ Broken? ☐ Documented? Number: _____
Type: ☐ plastic ☒ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☐ Quantity OK? ☐ Leaking? ☐ Anomaly?
☐ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☐ Unique ID? ☒ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☒ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☒ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☒ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: _____ Printed: 4 May 2004 7:23 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

04-02793 (0470_ 226) (2202777_ 226)

05/04/04

Part 1: General Information

☐ Company Information	Name:	*GEOFON, Inc.*
	Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐ Project Information	Project Description:	*JPL GW Mon 2Q04*
		MW-18
	Project #:	*4-12812*
☐ Billing Information	P.O. #:	
	Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
	Lab Project ID:	
	Client Database #:	*3*
☐ Receiving Information	Who Received Sample?	*Jason Nario*
	Receiving Date/Time:	*05/04/04 1300*
	COC No.	*0096*
☐ Shipping Information	Shipping Company	*APCL pick up*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*3.5 °C*
☐ Container Information	Container Provider:	*Client*
☐ Sampling Information	Sampling Person:	*TM/JJ/MM*
	Sampling Company:	*Client*
☐ Turn-Around-Time Option:		*Normal*
☐ QC Option:		*NEESA C*
☐ Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-18-5	VOC	04-02793-6-α	W	V	C	40	3	G	050404	N	0	9	☐
	MW-18-5	PH/TDS	04-02793-6-β	W	P		500	1	G	050404	N	0	9	☐
	MW-18-5	300	04-02793-6-γ	W	P		500	1	G	050404	N	0	9	☐
	MW-18-5	METAL	04-02793-6-δ	W	P	N	500	1	G	050404	N	0	9	☐
2	MW-18-4	VOC	04-02793-5-α	W	V	C	40	6	G	050404	N	0	9	☐
	MW-18-4	PH/TDS	04-02793-5-β	W	P		500	2	G	050404	N	0	9	☐
	MW-18-4	300	04-02793-5-γ	W	P		500	2	G	050404	N	0	9	☐
	MW-18-4	METAL	04-02793-5-δ	W	P	N	500	2	G	050404	N	0	9	☐
3	MW-18-3	VOC	04-02793-4-α	W	V	C	40	3	G	050404	N	0	9	☐
	MW-18-3	PH/TDS	04-02793-4-β	W	P		500	1	G	050404	N	0	9	☐
	MW-18-3	300	04-02793-4-γ	W	P		500	1	G	050404	N	0	9	☐
	MW-18-3	METAL	04-02793-4-δ	W	P	N	500	1	G	050404	N	0	9	☐
4	MW-18-2	VOC	04-02793-3-α	W	V	C	40	3	G	050404	N	0	9	☐
	MW-18-2	PH/TDS	04-02793-3-β	W	P		500	1	G	050404	N	0	9	☐
	MW-18-2	300	04-02793-3-γ	W	P		500	1	G	050404	N	0	9	☐
	MW-18-2	METAL	04-02793-3-δ	W	P	N	500	1	G	050404	N	0	9	☐
5	MW-18-1	VOC	04-02793-2-α	W	V	C	40	3	G	050404	N	0	9	☐
	MW-18-1	PH/TDS	04-02793-2-β	W	P		500	1	G	050404	N	0	9	☐
	MW-18-1	300	04-02793-2-γ	W	P		500	1	G	050404	N	0	9	☐
	MW-18-1	METAL	04-02793-2-δ	W	P	N	500	1	G	050404	N	0	9	☐
6	EB-4-5/4/04	VOC	04-02793-1-α	W	V	C	40	3	G	050404	N	0	9	☐
	EB-4-5/4/04	PH/TDS	04-02793-1-β	W	P		500	1	G	050404	N	0	9	☐
	EB-4-5/4/04	300	04-02793-1-γ	W	P		500	1	G	050404	N	0	9	☐
	EB-4-5/4/04	METAL	04-02793-1-δ	W	P	N	500	1	G	050404	N	0	9	☐
7	TB-4-5/4/04	VOC	04-02793-7	W	V	C	40	2	G	050404	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

May 28, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2809 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042809
Collected by: TM/JJ/MM
Collected on: 05/05/04

Received: 05/05/04
Extracted: 05/06/04
Tested: 05/05-11/04
Reported: 05/17/04

Sample Description: Water from MW-17
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-5-5/5/04 04-02809-1	MW-17-1 04-02809-2	MW-17-2 04-02809-3
BICARBONATE	SM2320B	mg/L	2	<2	157	147
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
PH	9040B	pH unit	0.01	6.32	7.18	7.61
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	5.0J	242	427
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	12.5
Dilution Factor				1.25	2	8
CHLORIDE CL^-	300.0	mg/L	0.2	0.15J	10	46.9
NITRATE AS N	300.0	mg/L	0.04	0.066	0.49	5.4
SULFATE SO_4^{--}	300.0	mg/L	0.5	<0.63	31.4	62.9
Dilution Factor				1	1	1
CHROMIUM	200.8	µg/L	0.1	0.19	7.3	7.6
LEAD	200.8	µg/L	0.12	0.023J	<0.12	<0.12
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5
Dilution Factor				1	1	1
CALCIUM	200.7	µg/L	200	<200	47,600	69,800
IRON	200.7	µg/L	50	<50	116	153
MAGNESIUM	200.7	µg/L	100	33.0J	15,800	27,900
POTASSIUM	200.7	µg/L	400	125J	2,090	2,740
SODIUM	200.7	µg/L	2000	275J	14,200	18,400
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result EB-5-5/5/04 04-02809-1	MW-17-1 04-02809-2	MW-17-2 04-02809-3
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	2.0	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-3 04-02809-4	MW-17-4 04-02809-5	MW-17-5 04-02809-6	TB-5-5/5/04 04-02809-7
BICARBONATE	SM2320B	mg/L	2	164	130	114	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	9040B	pH unit	0.01	7.70	8.05	8.05	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	304	198	225	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				2	1	1	1
PERCHLORATE	314.0	µg/L	4	<8	<4	<4	-
Dilution Factor				5	2	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	37.6	12.3	10.9	-
NITRATE AS N	300.0	mg/L	0.04	3.5	0.12	0.077J	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	44.5	15.2	18.2	-
Dilution Factor				1	1	1.25	1
CHROMIUM	200.8	µg/L	0.1	8.1	5.6	8.3	-
LEAD	200.8	µg/L	0.12	<0.12	0.14	73.3	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	2.5J	3.9J	12.0	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	46,000	20,700	30,400	-
IRON	200.7	µg/L	50	786	138	18,100	-
MAGNESIUM	200.7	µg/L	100	22,100	6,590	9,890	-
POTASSIUM	200.7	µg/L	400	2,030	1,540	3,150	-
SODIUM	200.7	µg/L	2000	21,100	34,600	49,000	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	4.7	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	1.9	0.4J	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-3 04-02809-4	MW-17-4 04-02809-5	MW-17-5 04-02809-6	TB-5-5/5/04 04-02809-7
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	2.1	1.6	0.7	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-4 04-02809-5
Dilution Factor				1
1,4-DIOXANE (P-DIOXANE)	8270-SIM	$\mu g/L$	1	<1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW-17/4-12812

For GEOFON, Inc.

APCL Service No: 04-2809

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-17-5	04-02809-6
MW-17-4	04-02809-5
MW-17-3	04-02809-4
MW-17-2	04-02809-3
MW-17-1	04-02809-2
EB-5-5/5/04	04-02809-1
TB-5-5/5/04	04-02809-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
8270-SIM (1,4-Dioxane),
200.8 (Chromium, Lead by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Faxed explanation regarding NDMA being resampled.

6. Anomaly

(1) COC/NDMA analyses:

Due to incorrect sampling containers, NDMA analysis was not performed in this SDG. Client was notified.

.31870

(2) 200.7:

Iron recoveries in the MS/MSD spiked on the sample MW-17-5 were outside of control limits, due to high level of Iron in the parent sample.

(3) 200.8:

Chromium in the amounts ranging from 0.126 ug/L through 0.451 ug/L was detected in the CCBs associated with the samples. The values were higher than 0.1 ug/L reporting limit. Chromium in the amount of 0.11 ug/L was detected in the associated Method Blank. Chromium was detected in the most of the field samples in the amounts significantly exceeding the reporting limit. The concentration in the sample EB-5-5/5/04 was 0.19 ug/L.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

MW-17

LABORATORY COPY

0097

GEOFON's LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL GW Mon 2Q04	PROJECT LOCATION: MW-17	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: NAVY~ SWDIV	CITY, STATE AND ZIPCODE: ~~Pasadena~~ Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T.	Analyses: 542.2 (VOCs)	7196 (Cr(VI)) / 314.0 (ClO4) / 200.8 (Cr)	300.0 (NO3, SO4, Cl)	NDMA	pH, TDS, CO3, HCO3	1-4-Dioxane	200.7 (Na, K, Ca, Fe, Mg) / 200.8 (Pb), 200.9 (Ds)	Comments
1	MW-17-5	W	5/5/04	0736	HCl Non-Halog	12	III	Normal	X	X	X		X		X	MS/MSD
2	MW-17-4	W		0900		8			X	X	X	X	X	X	X	
3	MW-17-3			1008		6			X	X	X		X		X	
4	MW-17-2			1050					X	X	X		X		X	
5	MW-17-2			1129					X	X	X		X		X	
6	EB-5-5/5/04			1033					X	X	X		X		X	
7	TB-5-5/5/04			—	HCl	2			X							
8																
9																
10																

2809

J. D. Jones
5/5/04

SAMPLES COLLECTED BY: TM + JJ + MM

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME
J. D. Jones	S. Buhbatter	5-5-04	12:15
S. Buhbatter	[signature]	5-5-04	13:10

SAMPLE'S CONDITION UPON RECEIPT

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2809 **Client Name/Project:** Geotn JPL

1. Sample Arrival

Date/Time Received 5/5/04 1310 Date/Time Opened 5/5/04 1310 By (name): KennyChan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Scott B.

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received 7
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ☑ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. Shipping Container/Cooler

☒ Cooler Used? # of 1 Cooled by: ☒ Ice ☐ Blue Ice ☐ Dry Ice ☑ None KC

Temp °C 3.1

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = ____ Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number:
Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: ____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other:
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:____)Date/Time:____

Received/Checked by: KennyChan Printed: 5 May 2004 7:32 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

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Telephone Log Sheet

Service I.D. #: **2809**

Date: 5/5/04

Initiated Call: Henry Chan

Person Called: J. Robinson

Company Name/Phone#: Geofon

Subject: NDMA

Notes:

Due to miscommunication between Henry and Geofon, Geofon didn't receive the correct bottle for NDMA sampling. MW-17-4's NDMA will be resample with new bottles. Thank you.

Follow Up Date:

Action:

Signature

If Required:

COC#: _____

Date: _____

Printed Name: _____

Signature: _____

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

04-02809 (0470_ 228) (2202777_ 228)

05/05/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			MW-17
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/05/04 1310*
		COC No.	*0097*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.1 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*TM/JJ/MM*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-17-5	VOC	04-02809-6-α	W	V	C	40	6	G	050504	N	0	9	☐
	MW-17-5	PH/TDS	04-02809-6-β	W	P		500	2	G	050504	N	0	9	☐
	MW-17-5	300	04-02809-6-γ	W	P		500	2	G	050504	N	0	9	☐
	MW-17-5	Metal	04-02809-6-δ	W	P	N	500	2	G	050504	N	0	9	☐
2	MW-17-4	VOC	04-02809-5-α	W	V	C	40	3	G	050504	N	0	9	☐
	MW-17-4	DOIX	04-02809-5-β	W	G		1000	1	G	050504	N	0	9	☐
	MW-17-4	PH/TDS	04-02809-5-γ	W	P		500	1	G	050504	N	0	9	☐
	MW-17-4	300	04-02809-5-δ	W	P		500	1	G	050504	N	0	9	☐
	MW-17-4	Metal	04-02809-5-ζ	W	P	N	500	1	G	050504	N	0	9	☐
3	MW-17-3	VOC	04-02809-4-α	W	V	C	40	3	G	050504	N	0	9	☐
	MW-17-3	PH/TDS	04-02809-4-β	W	P		500	1	G	050504	N	0	9	☐
	MW-17-3	300	04-02809-4-γ	W	P		500	1	G	050504	N	0	9	☐
	MW-17-3	Metal	04-02809-4-δ	W	P	N	500	1	G	050504	N	0	9	☐
4	MW-17-2	VOC	04-02809-3-α	W	V	C	40	3	G	050504	N	0	9	☐
	MW-17-2	PH/TDS	04-02809-3-β	W	P		500	1	G	050504	N	0	9	☐
	MW-17-2	300	04-02809-3-γ	W	P		500	1	G	050504	N	0	9	☐
	MW-17-2	Metal	04-02809-3-δ	W	P	N	500	1	G	050504	N	0	9	☐
5	MW-17-1	VOC	04-02809-2-α	W	V	C	40	3	G	050504	N	0	9	☐
	MW-17-1	PH/TDS	04-02809-2-β	W	P		500	1	G	050504	N	0	9	☐
	MW-17-1	300	04-02809-2-γ	W	P		500	1	G	050504	N	0	9	☐
	MW-17-1	Metal	04-02809-2-δ	W	P	N	500	1	G	050504	N	0	9	☐
6	EB-5-5/5/04	VOC	04-02809-1-α	W	V	C	40	3	G	050504	N	0	9	☐
	EB-5-5/5/04	PH/TDS	04-02809-1-β	W	P		500	1	G	050504	N	0	9	☐
	EB-5-5/5/04	300	04-02809-1-γ	W	P		500	1	G	050504	N	0	9	☐
	EB-5-5/5/04	Metal	04-02809-1-δ	W	P	N	500	1	G	050504	N	0	9	☐
7	TB-5-5/5/04	VOC	04-02809-7	W	V	C	40	2	G	050504	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3C* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)